

BOOK REVIEWS

FLOWERING TROPICAL CLIMBERS, by Geoffrey Herklots, with pp. 194, 270 line drawing and 16 full colour plates. (In slip case.) Folkestone, Kent: Dawson Science History Publications, 1976. £17.50.

In his preface to *Flowering Tropical Climbers*, the author states that his book "is intended primarily as a guide to students who are studying the ecology of tropical plants". This seems to me a rather misleading remark as the book is actually a systematic enumeration of some of the better known ornamental climbers cultivated in the tropics.

The species discussed are dealt with under families, the families being arranged in alphabetical order; but there are no keys to the families or genera and only in a few cases are keys to the species given. This will tend to make finding ones way around a little awkward, except for those with some knowledge of angiosperm systematics. Geoffrey Herklots, however, is one of those extraordinarily talented persons who is a master of the art of line drawing. In all, 270 of his beautifully executed line drawings illustrate the text. They are accurate, clear and diagnostic as well as being aesthetically pleasing and all have been drawn from living material studied by the author at an impressive number of exotic places in the tropics during the greater part of his lifetime. These drawings are the very core of the book and may well prove more useful than a plethora of keys. The 16 colour plates are less successful, however.

Likewise, the text is based on original observations particularly in so far as the cultural notes are concerned. In addition to a description of each species discussed, important synonyms and distribution data are given. It is very difficult to assess the completeness of this book, but in general, it would seem that the more spectacular horticultural subjects appear to have been given preference. In the final analysis the author's selection seems to have been a very personal one. One wonders, for instance, how *Clematis montana*, a Himalayan species, hardy in English gardens, came to be included in a book on tropical climbers, while *Clematis brachiata*, widely distributed in southern Africa is omitted. *Combretum microphyllum*, a splendid subtropical African species is also missing; although possibly the author considers it synonymous with the related *C. paniculatum*, which is listed.

Horticulturists working in the warmer parts of the world will find this publication an invaluable guide in the selection of suitable material. I believe it will also be useful to botanists who have to name specimens of cultivated tropical climbers without having access to adequate library facilities. But priced at £17.50 this somewhat specialized volume will be beyond the means of most, except of course affluent tax exiles on Caribbean Islands who intend to refurbish their gardens with some of the tantalizing climbers which Dr Herklots has so skilfully brought to our attention. All in all, this carefully written book will surely fill a gap in the literature as it deals with a subject which appears to have been completely ignored in the past.

J. P. ROURKE

PLANT PATHOGENESIS, by H. Wheeler, with pp. x, 106, 19 figures and 5 tables. Berlin—Heidelberg—New York: Springer-Verlag, 1975. U.S. \$16.00.

Plant Pathogenesis is a slim but sturdily bound volume of 106 pages with 19 figures (half-tones and graphs) and 5 tables.

It is the second volume of an *Advanced Series in Agricultural Sciences*, in which the editors set out to provide concise, up-to-date, texts for "advanced undergraduate and early

graduate students in agriculture", texts which will also be "helpful to extension specialists who have an ever-present need for the latest information in the day-to-day solving of practical problems". The author of the present volume intends it "... to serve as a text for advanced undergraduate and graduate students in plant sciences and as a reference source for students, researchers and technologists".

There are six chapters. Chapter 1 is a brief review of modern concepts of plant diseases and their causes, pathogenicity and the disease reaction. This is followed by a description of the penetration process and the "offensive weapons" employed by pathogens: enzymes, growth regulators and toxins. Chapter 3 deals with the response of plants to infection: pathological alterations in structure, function and metabolism. Those mechanisms of disease resistance not covered in previous chapters are dealt with in Chapter 4. Chapter 5 discusses genetic aspects of pathogenesis, while in the final chapter the author introduces the concept of a physiological syndrome: "a sequence of changes in pathogenesis triggered by some initial event".

Plant Pathogenesis is an advanced reference text. It is up-to-date: more than 100 of the nearly 200 references are dated 1970 or later and most of the half-tones are either transmission or scanning electron micrographs. It is well-written. The bulk of the material is factual, though Chapter 1 is concisely philosophical and Chapters 5 and 6 admittedly speculative. Particularly stimulating is the treatment of Flor's gene-for-gene hypothesis in Chapter 5.

Plant Pathogenesis will find little place in the bookshelf of the extension specialist involved in solving practical problems in the agricultural field, but in the South African context it should be compulsory reading for final year plant pathology undergraduate students, postgraduate botany students specializing in plant pathology, and university teachers in these fields. Unfortunately the price of the volume (U.S. \$16.00) is such that only the dedicated will acquire their own copies.

P. S. KNOX-DAVIES

ADVANCES IN RESEARCH AND TECHNOLOGY OF SEEDS, PART 1, edited by W. T. Bradnock. Wageningen, Centre for Agricultural Publishing and Documentation, 1975. Price Df35.

This book consists of a series of short reviews on recent advances in seed physiology and technology, and is a successor to the *Seed Bibliography* previously published at intervals by the International Seed Testing Association. It is intended to produce further issues on a range of topics concerned with seed biology as the subject advances. Only work published since 1970 is included in the reviews contained in the present issue, and in the reviewer's opinion, this is the real value of the book.

The subjects covered in this first issue are germination, a short specialist section on tree and shrub seeds, seed dormancy, seed pathology and seedling vigour. Only the review on seed dormancy gives any background information on general theory, the others assuming a familiarity with their subjects and utilizing their available space for coverage of newly-published research results. This of course rules out the possibility of use by students or newcomers to seed physiology, unless they are prepared to use a more general text initially.

The book will therefore be of most use to specialists in seed technology, who will derive greatest benefit by being brought up to date both with new results and with the present trends of investigation in subjects peripheral to their own fields of research. The value of the reviews would be considerably increased if the editor could induce writers to include comment on the results presented, and indicate areas of work which require to be extended. If the original aim of producing a continuing series of these works is achieved, a most valuable reference collection will be formed.

T. A. VILLIERS